

#### INFECTION CONTROL PROCEDURE FOR HAND DECONTAMINATION

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Documents to read alongside this Policy, Procedure etc (delete as necessary)

Infection Control Procedures on:

Isolation Outbreaks

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#### OUT OF DATE POLICY DOCUMENTS MUST NOT BE RELIED ON

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#### 1. SUMMARY

- 1.1 The hands of health professionals are considered to be the primary source of cross infection in the health care setting.
- 1.2 Effective hand decontamination can significantly reduce the number of microorganisms on the hands and decrease the spread of hospital acquired infections.
- 1.3 Hand decontamination refers to hand washing with soap and water and/or use of alcohol gel.
- 1.4 All staff present in a clinical environment MUST adhere to the following principles to enable effective hand hygiene:
  - Wear short sleeves (rolled up sleeves are acceptable), or elbow length sleeves.
  - No wrist watches or bracelets to be worn
  - Keep nails short and clean
  - Artificial nails and nail varnish must not be worn.
  - Plain wedding rings only to be worn.
  - Any cuts and abrasions on hands and arms should be covered with a non-permeable dressing.
- 1.5 Alcohol gel is an effective hand decontaminating agent on physically clean hands except in the case of patients with diarrhoea caused by Norovirus and *Clostridium difficile*. After any contact with a patient who has known diarrhoea hands should be washed with liquid soap and water.
- 1.6 Hands must be wet before applying soap and thoroughly rinsed and dried after washing.
- 1.7 The key time for general hand decontamination is at the point of care applying the 5 moments for hand hygiene:
  - Before patient contact (and before entering an isolation room)
  - Before a clean / aseptic task is undertaken.
  - After body fluid exposure risk
  - After patient contact
  - After contact with the patient environment (and before leaving an isolation room)
- 1.8 A surgical hand scrub is essential prior to all surgical procedures. It involves applying an antiseptic agent to the hands, wrists and forearms. The procedure takes longer and eliminates a greater number of resident bacteria.

1.9 Failure to comply with the Hand Hygiene procedure including failure to be "bare below the elbows" when present in clinical areas is a breach of Cardiff and Vale UHB policies and procedures and may result in a staff member being subject to disciplinary procedures.

# 2. INTRODUCTION

- 2.1 This procedure applies to all staff within Cardiff and Vale UHB.
- 2.2 The hands of health professionals are considered to be the primary source of cross infection in the health care setting.
- 2.3 Effective hand decontamination can significantly reduce the number of microorganisms on the hands and decrease the spread of hospital acquired infections.
- 2.4 If a staff member experiences any skin reactions to the hand decontamination products, they should seek advice from Occupational Health Department.
- 2.5 Microorganisms found on the skin are grouped into two categories: transient and resident. Transient organisms are superficial microorganisms that survive for less than 24 hours on skin and are not part of the normal body flora. Resident microorganisms are mostly located in superficial skin layers but 10 20% are found in deeper epidermis layers. These microorganisms are part of the body's normal flora and natural defence mechanism and rarely cause infection in the healthy body unless they enter the body through an invasive procedure or surgery.
- 2.6 Hand decontamination refers to hand washing with soap and water and/or use of alcohol gel. For staff working in community settings where hand hygiene facilities are unavailable the use of detergent / sanitising wipes have been agreed for use (see appendix 1)

#### 3. AIMS

3.1 To provide appropriate advice to staff regarding the practice of effective hand decontamination across all UHB locations.

#### 4. OBJECTIVES

- 4.1 To provide advice on when hand decontamination is indicated.
- 4.2 To provide advice on the technique of hand decontamination appropriate to the procedure that the member of staff wishes to carry out or has just completed.

- 4.3 To provide advice on the use of decontamination agents in relevant UHB areas.
- 4.4 To provide advice on hand care.

# 5. SCOPE

- 5.1 Cardiff and Vale University Health Board accepts its responsibility under the Health and Safety at Work Act etc. 1974 and the Control of Substances Hazardous to Health Regulations 2002, to take all reasonable precautions to prevent exposure to an infectious disease in patients, staff and other persons working for or using its premises.
- 5.2 In order to prevent the possible spread of infectious agents amongst patients and staff it is recognised that the UHB requires a procedural document on hand decontamination to ensure effective management of infection.

#### 6. ROLES AND RESPONSIBILITIES

- 6.1 The Infection Prevention and Control Group is responsible for the approval of the Infection Prevention and Control Procedure for Hand Decontamination.
- 6.2 Clinical Board Directors and their management team will be responsible for the implementation and monitoring of compliance with this procedure..
- 6.3 Distribution of the procedure will be through the Health Board intranet site.

#### 7. BACKGROUND INFORMATION

- 7.1 All staff present in a clinical environment MUST adhere to the following principles to enable effective hand hygiene:
  - Wear short sleeves (rolled up sleeves are acceptable), or elbow length sleeves.
  - No wrist watches or bracelets to be worn
  - Keep nails short and clean
  - Artificial nails and nail varnish must not be worn.
  - Plain wedding rings only to be worn.
  - Any cuts and abrasions on hands and arms should be covered with a non-permeable dressing.

# 7.2 Alcohol gel

Alcohol gel is an effective hand decontaminating agent on physically clean hands except in the case of patients with diarrhoea caused by

Norovirus and *Clostridium difficile*. After any contact with a patient who has known diarrhoea or in the instance of an infectious incident/outbreak involving diarrhoea, hands should be washed with liquid soap and water. This will ensure the 'mechanical removal' of spores as the alcohol gel alone will not remove or kill them. In non diarrhoeal situations, alcohol gel is ideal to use in between patients/activities as long as the hands are physically clean. Alcohol gel should be made available at the point-of-patient contact after a local risk assessment has been carried out, with the exception of paediatrics and mental health.

#### 7.3 Skin Care

- 7.3.1 When skin is damaged bacterial counts increase. Microorganisms can harbour and multiply in any broken skin leading to a risk of infection to you and to others. Any broken skin must be covered with a non-permeable waterproof dressing.
- 7.3.2 Hands must be wet before applying soap and thoroughly rinsed and dried after washing. This lessens the chance of contact dermatitis developing. Contact dermatitis is an inflammation of the skin that results from direct contact with certain substances, such as soap. The resulting red, itchy rash is not contagious or life-threatening, but it can be very uncomfortable and can increase bacterial carriage.
- 7.3.3 The application of hand cream can help protect the hands from damage but communal jars/tubes of hand cream must not be used.
- 7.3.4 If a member of staff experiences any skin reactions to the hand decontamination products, they should seek advice from the Occupational Health Department.
- 7.4 Transient and Resident Microorganisms

## 7.4.1 Transient

These are superficial microorganisms that survive for less than 24 hours on skin and are not part of the normal body flora. They are termed transient because direct contact with other people (colonized or infected), equipment or the environment can result in the transfer of such organisms to and from the hands but effective hand decontamination can easily remove them.

# 7.4.2 Resident

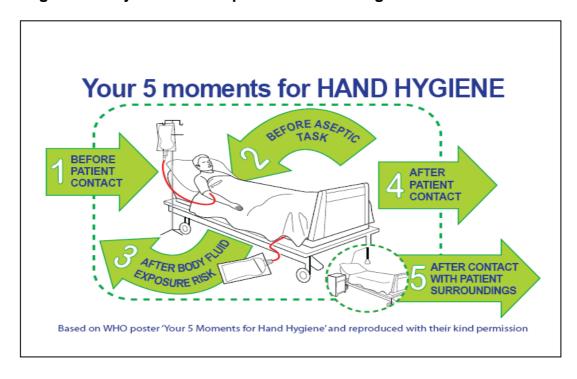
These microorganisms are mostly located in superficial skin layers but 10 – 20% are found in deeper epidermis layers. These microorganisms are part of the body's normal flora and natural defence

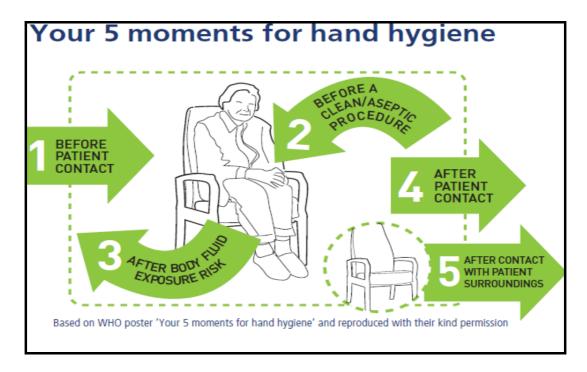
mechanism and rarely cause infection in the healthy body unless they enter the body through an invasive procedure or surgery. They will not cause infections in the fit and healthy but unwell patients are susceptible. Plain soap or detergents will not remove all resident microorganisms, only hand decontamination with appropriate antimicrobials can kill or inhibit organisms.

#### 8. LEVELS OF HAND DECONTAMINATION

- 8.1 Hand decontamination is determined by actions; those completed and those intended to be performed.
- 8.2 General hand decontamination (See page 11-12 for technique)
- 8.2.1 The key time for general hand decontamination is at the point of care applying the 5 moments for hand hygiene:
  - Before patient contact (and before entering an isolation room)
  - Before a clean / aseptic task is undertaken.
  - After body fluid exposure risk
  - After patient contact
  - After contact with the patient environment (and before leaving an isolation room)

Your 5 moments for hand hygiene can be applied to <u>all</u> care settings and not just acute hospital wards see diagrams from the NPSA.





- 8.2.2 It is also important to decontaminate hands at other times, for example:
  - Before starting and leaving work.
  - Before preparing, handling or eating food.
  - Before entering/leaving laboratory area.
  - After handling contaminated waste or laundry.
  - After removing gloves.
  - After decontamination of equipment/environment.
  - After visiting the toilet.
  - Between tasks on the same patient if there is risk of contamination from one site to another.
  - Following handling of patient notes or equipment.
- 8.2.3 General hand decontamination consists of using liquid soap and an effective washing technique, and alcohol gel when indicated.

The sole use of alcohol gel must not be used if:

- Hands are visibly soiled
- The patient is experiencing vomiting and/or diarrhoea
- There is direct hand contact with any body fluids i.e. if gloves have not been worn.
- There is an outbreak of Norovirus, *Clostridium difficile* or other diarrhoeal illnesses (confirmed or suspected).
- 8.2.4 Patients also need to be encouraged to use general hand decontamination before eating meals and after using the toilet (especially if having diarrhoea and vomiting).

- 8.2.5 Staff must ensure that hand washing equipment is provided at the bedside e.g. bowl of water, soap and hand towels if patients are unable to access a sink.
- 8.3 Surgical Decontamination (See page 11 for technique)
- 8.3.1 A surgical hand scrub is essential prior to all surgical procedures. It involves applying an antiseptic agent to the hands, wrists and forearms. The procedure takes longer and eliminates a greater number of resident bacteria.

#### 9. TECHNIQUE FOR GENERAL HAND DECONTAMINATION

- 9.1 Technique (see flow chart page 12)
  - If a ring is worn, either remove it or ensure that the area underneath is washed.
  - Turn on taps. Adjust water temperature and flow to desired settings
  - Wet hands under running water.
  - Apply soap to hands Utilise the technique illustrated on the hand washing posters and shown on page 10.
  - Ensure all areas of the hands are covered, including the wrists and forearms if applicable.
  - Pay particular attention to fingertips, nails, thumbs and the area between the fingers.
  - All areas of the hnds and wrists should be vigorously rubbed. Rinse hands under running water.
  - Dry hands with disposable paper towels. Use a used or new paper towel to turn off the running water then discard.
  - Dispose of the paper towels using the foot pedal on the bin, ensuring that hands are not re-contaminated in the process.

### Then

- If indicated apply alcohol gel (for example on certain units additional hand decontamination with alcohol is required at all times).
- Utilise the technique illustrated on the hand washing posters and shown on page 10.
- Ensure it is rubbed into all area of the hands.
- Pay particular attention to fingertips, nails, thumbs and the area between the fingers.
- Allow alcohol to evaporate fully so that hands are completely dry.

# 9. TECHNIQUE/FLOW CHART

# **General Hand Decontamination Technique**

# Liquid soap and water



Wet hands with water

Or

Alcohol Gel



Apply alcohol gel

Rub Soap or Alcohol Gel into all Areas of Hands



Rub hands palm to palm



Apply liquid soap

Rub the back of left hand with her palm of right hand with fingers interlaced, and visa versa.



Rub hands palm to palm with fingers interlaced



Rub interlocking hands to clean backs of fingers



Rub each thumb clasped in opposite hand



Rub tips of fingers and nails in cupped palm of opposite palm using a circular motion



Rub each wrist with the opposite hand



Rinse hands with water



Dry hands thoroughly with as many paper towels as needed





Hand cream may be applied

Allow alcohol to evaporate, so that hands are completely dry

#### 10. SURGICAL DECONTAMINATION

- 10.1 Reproduced from main theatres policy, Cardiff and Vale UHB
  - Turn on taps. Adjust water temperature and flow to desired settings
  - Wet hands and arms to the elbow
  - Dispense at least 5ml of selected solution onto hand (once you have selected a solution you must continue to use the same one throughout the scrub, and subsequent scrubs during the same session)
  - Lather arms and hands, down to elbows with selected solution for one minute - social wash. Keep hands upright and arms away from the body.
  - Rinse off lather thoroughly keeping hands above elbow level at all times to allow water to run from hands to elbow.
  - Using elbow, dispense fresh solution and re-lather hands and arms for a further one minute.
  - Leaving solution on arms, obtain a sterile disposable nail brush and scrub fingernails only for one minute.
  - Brushes are single use only and must be discarded in an appropriate container.
  - Rinse hands and arms thoroughly keeping arms upright.
  - Dispense further solution onto hands, lather and wash hands and only three quarters of the way down the arm for one minute.
  - Rinse hands only, allowing solution on arms to remain undisturbed
  - Take fresh solution and re-lather hands only (do not touch arms) for one minute.
  - Rinse hands and arms thoroughly.
  - Turn off taps using elbows, and holding hands up and away from clothing move to gown trolley.
  - Pick up a sterile towel from the trolley, using one towel to dry each arm, dry each finger individually and thoroughly using a circular movement. Continue the circular movement from hand to elbow ensuring bare hand does not touch arm.
  - On reaching elbow towel must be discarded straight into bin without being handled.
  - If you have used a soap solution (rather than an antimicrobial) you
    must dispense sufficient alcohol gel onto the hand and rub into arms
    and hands ensuring no areas are missed. Allow alcohol gel to
    evaporate prior to donning gloves and gown.

#### 11. RESOURCES

11.1 The necessary resources for the management, training, risk assessments, monitoring and auditing of hand decontamination are already in place and the implementation of this procedure will not entail additional expenditure.

#### 12. TRAINING

- 12.1 Mandatory Infection and Prevention and Control training updated every two years. Available at: http://cav-elearn01.cardiffandvale.wales.nhs.uk/log/login.asp
- 12.2 Further departmental based training as identified by training needs analysis.

#### 13. IMPLEMENTATION

- 13.1 The document will be available on the UHB intranet site and the Infection Prevention and Control clinical portal. Individual Directorates will be responsible for the implementation of the procedure document in clinical areas.
- 13.2 Failure to comply with the Hand Hygiene procedure including failure to be "bare below the elbows" when present in clinical areas is a breach of Cardiff and Vale UHB policies and procedures and may result in a staff member being subject to disciplinary procedures.

# 14. FURTHER INFORMATION

14.1 Infection Control page on the UHB Intranet site at: http://nww.cardiffandvale.wales.nhs.uk/portal/page?\_pageid=253,8390 75,253\_839076&\_dad=portal&\_schema=PORTAL

#### 15. EQUALITY

15.1 This procedure has had an equality impact assessment and has shown there has been no adverse effect or discrimination made on any particular or individual group.

## **16. AUDIT**

16.1 Audit of compliance with this procedure, will be carried out by the local ward staff supported by the Infection Prevention and Control Department, as part of their procedure audit programme.

# 17. REVIEW

17.1 This procedure will be reviewed every three years or sooner if any new guidelines are published.

# 18. REFERENCES

- 18.1 All Wales NHS Dress Code, Welsh Government. Crown Copyright October 2010.

  <a href="http://www.wales.nhs.uk/sitesplus/documents/862/Attachment%20-%20NHS%20Dress%20Code.pdf">http://www.wales.nhs.uk/sitesplus/documents/862/Attachment%20-%20NHS%20Dress%20Code.pdf</a>
- 18.2 Welsh Healthcare Associated Infection Programme, National Model Policies for Infection Prevention and Control. Part 1: Standard Infection Control Precautions. October 2012. Available at: <a href="http://www2.nphs.wales.nhs.uk:8080/WHAIPDocs.nsf/3dc04669c9e1e">http://www2.nphs.wales.nhs.uk:8080/WHAIPDocs.nsf/3dc04669c9e1e</a> <a href="mailto:aa880257062003b246b/24cf7af1a131dd6f80257abd0048f3a1/\$FILE/SICPS\_VFinal\_Oct\_12.pdf">http://www2.nphs.wales.nhs.uk:8080/WHAIPDocs.nsf/3dc04669c9e1e</a> <a href="mailto:aa880257062003b246b/24cf7af1a131dd6f80257abd0048f3a1/\$FILE/SICPS\_VFinal\_Oct\_12.pdf">http://www2.nphs.wales.nhs.uk:8080/WHAIPDocs.nsf/3dc04669c9e1e</a> <a href="mailto:aa880257062003b246b/24cf7af1a131dd6f80257abd0048f3a1/\$FILE/SICPS\_VFinal\_Oct\_12.pdf">http://www2.nphs.wales.nhs.uk:8080/WHAIPDocs.nsf/3dc04669c9e1e</a> <a href="mailto:aa880257062003b246b/24cf7af1a131dd6f80257abd0048f3a1/\$FILE/SICPS\_VFinal\_Oct\_12.pdf">aa880257062003b246b/24cf7af1a131dd6f80257abd0048f3a1/\$FILE/SICPS\_VFinal\_Oct\_12.pdf</a>
- 18.3 R. J Pratt, C. M. Pellowe, J. A. Wilson *et al.* (2007) epic2: National evidence based guidelines for preventing healthcare associated infections in NHS hospitals in England. *Journal of Hospital Infection* 65S; S1-S64.

# **Appendix 1**

Procedure to follow when appropriate hand hygiene facilities not available

- 1. Ensure you are bare below the elbow
- 2. Use detergent wipes provided by the Health Board to clean your hands according to the 5 moments of Hand decontamination
- 3. Ensure all areas of the hands are wiped with the wipe including the wrists
- 4. Once the hands are dry, use alcohol gel ensuring all areas of the hands and wrists are covered